

# Vancomycin

## General:

Vancomycin is a glycopeptide antibiotic used in the prophylaxis and treatment of infections caused by Gram-positive bacteria inclusive MRSA. Specifically, vancomycin prevents incorporation of N-acetylmuramic acid (NAM)- and N-acetylglucosamine (NAG)-peptide subunits into the peptidoglycan matrix, which forms the major structural component of Gram-positive cell walls. Vancomycin is not active against Gram-negative bacteria (except some non-gonococcal species of *Neisseria*).

Peak and trough levels are usually monitored in an effort to reduce adverse effects like nephrotoxicity and ototoxicity. Circumstances where therapeutic drug monitoring is requested include: patients receiving concomitant aminoglycoside therapy, patients with (potentially) altered pharmacokinetic parameters, patients on hemodialysis, during high dose or prolonged treatment, and patients with impaired renal function.

Vancomycin needs to be applied intravenously for systemic therapy since it is not resorbed in the GIT. The only indication for oral vancomycin therapy is in the treatment of pseudomembranous colitis, where it must be given orally to reach the site of infection in the colon.

### • Vancomycin

Indication: Therapy monitoring

Material: 1 ml serum

TAT: 7-10 days\*

Method: EIA

Units: µg/mL

Ref.- range: 5 - 15 basal 20 - 40 peak

### • Vancomycin Resistance from Culture

## General :

Vancomycin-resistant *Enterococcus*, or vancomycin-resistant enterococci (VRE), are bacterial strains of the genus *Enterococcus* that are resistant to the antibiotic vancomycin. Six different types of vancomycin resistance are shown by enterococcus : Van-A, Van-B, Van-C, Van-D, Van-E and Van-F. Of these, only Van-A, Van-B and Van-C have been seen in general clinical practice, so far. The significance is that Van-A VRE is resistant to both vancomycin and teicoplanin, Van-B VRE is resistant to vancomycin but sensitive to teicoplanin, and Van-C is only partly resistant to vancomycin, and sensitive to teicoplanin.

Material: Dry swab from focus and/or respiratory tractus or from colonies (pure culture of enterococcus)

TAT: 7- 10 days\*

Method: PCR

Ref.- range: see report

For complete list of laboratory test offered at Freiburg Medical Laboratory, please visit <http://www.fml-dubai.com/parameter-listings/>